

Marquette Ore Dock No. 6: Approach  
Fifth to Lake Streets  
Marquette  
Marquette County  
Michigan

HAER No. MI-45-A

HAER  
MICH  
52-MARQ,  
1A-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
MID-ATLANTIC REGION, NATIONAL PARK SERVICE  
DEPARTMENT OF THE INTERIOR  
PHILADELPHIA, PENNSYLVANIA 19106

HISTORIC AMERICAN ENGINEERING RECORD

MARQUETTE ORE DOCK NO. 6:  
APPROACH

HAER No. MI-45-A

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MICH  
52-MARQ,  
1A-

Location: Between Fifth and Lake Streets in Marquette City, Marquette County, Michigan.

UTM 16.470120.5154000  
Quad: Marquette, MI

Engineer: Merritt-Chapman & Whitney Corporation,  
Duluth, Minnesota.

Date of Construction: 1931-1932.

Present Owner: Wisconsin Central, Ltd.  
One O'Hare Center  
6250 North River Road, Suite 9000  
Rosemont, Illinois 60018

Present Use: Vacant.

Significance: The steel approach is an integral part of the of the ore dock complex. It is an example of structural steel construction which takes railroad trackage through a commercial portion of the city of Marquette. Train loads of iron ore were raised from street level to the top of the ore dock which is 85 feet 7 inches in elevation. The inexpensive price of steel during the Great Depression allowed the South Shore Dock Company to construct this portion of the approach out of steel rather than timbers.

Project Information: This documentation was undertaken from June through August 1990 in accordance with agreements with Wisconsin Central, Ltd., the Interstate Commerce Commission, the National Park Service, and the Michigan State Bureau of History.

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The steel approach to the ore dock is 2,577 feet in length and winds its way from Fifth Street on the west to Lake Street on the east through the heart of the city of Marquette. In the process train loads of iron ore were raised to 85 feet and 7 inches to where it met the timber trestle east of Lake Street.

With the commencement of construction on the dock proper work immediately began on the approach. As early as March 1931 some sections of the span were in Marquette awaiting construction. On 8 April C.E. Urbahns, general manager of DSS&A, announced that the railroad would have to relocate the main line through the west yards and remove other track in order to construct the new approach west of Fifth Street. The track work along with the erection of the elevated approach between Fifth and Third Streets was ready to proceed. On land a half mile to the west the railroad crews realigned the track. On 25 May work began on the foundation for the elevated approach at Fourth Street. Concrete crib walls were constructed westward from Fourth Street: 289 feet on the north side and 115 feet westward on the south side. Four days later workmen began the excavation of the pier and abutment at the Fourth Street site. With this work completed between 2-12, June concrete was poured for the Fourth Street pier and abutment. This work progressed slowly because little could be done until the end of the navigation season. Otherwise the crew would be interfering with the old approach to Ore Dock No. 5 which was in use through the 1931 shipping season.

A major change was made in late July to the type of material to be used in a portion of the approach. Originally plans called for the approach between Fourth and Third Streets to be constructed of timber. However it was found that the price of steel had declined and a steel approach would add only \$18,000 to the cost. Furthermore the engineers with the DSS&A felt that the change would make the approach fireproof, aesthetically pleasing and would demand low maintenance. As a result the only portion constructed of timber was between Lake Street and the Ore Dock proper. By late July the concrete foundation which would carry the tracks over Fourth Street had been completed. Construction of the steel approach to Third Street had been awarded to Wisconsin Bridge and Iron Company of Milwaukee, Wisconsin, while Merritt-Chapman & Whitney would connected this portion of the approach to the wooden section. Fred Eastman was the man in charge of this part of the project. The first steel column to support the approach was erected midway between Third and Fourth Streets by 19 September.

The approach was a steel trestle landing on concrete piers. The foundation piers were six feet deep and each one rested on eight piles. The trestle was supported by 11 sets of columns or

bents of which four are the tower type, cross-laced to guard against side strain and torsion. The approach rose on a one percent grade between Fourth and Third Streets and the actual increase from one street to the other was three feet. There was little difference in the length of the columns since the increase in height was accomplished by building the cement piers higher. The last of the piers were completed on 3 October and all that remained to be done was the steel work. The many steel braces, columns, girders and other parts were fabricated in the Milwaukee plant of the company and were then shipped to Marquette for final riveting. In the plant they were painted with one coat of red lead and oil and in the field they received two coats of black graphite. It was planned to have 14 carloads of steel to complete the job. The railroad ties which were arriving from Oregon would be bolted to the trestle only when the job was completed.

By December 1931 attention concentrated on the new approach. At the end of December workmen were constructing the dock approach at the foot of Third Street. Some materials from the approach to Ore Dock No. 5 were used as needed on the new approach. The bents had risen on each side of the street 32 feet above the ground. There was a 24 foot clearance between the two sides of each bent. Two steel girders measuring 80 feet in length and 7 1/2 feet in width and weighing 31 tons each were in the rail yards awaiting placement. The new rail approach which started at Fifth Street had been erected to a point a short distance from Third Street. The long runway had been planned so that the grade for ore trains would be greatly diminished as opposed to the old Ore Dock whose approach began at Third Street. Concrete continued to be poured for the pedestals. It was planned to erect four steel towers and four steel bents between Fourth and Third Streets and one tower between Front and Lake Streets. The span over Front Street was 42 feet above the surface of the ground or about 29 feet higher than the old span on Front Street. The bents were even higher at Lake Street near the dock where the spans project 62 feet above the ground at track level. Allowing for nine feet of steel this left a clearance of 53 feet underneath Lake Street. All other structural steel parts were placed on the approach between 28 December 1931 and 1 March 1932 with the final two coats of black graphite paint applied by 20 April.

On June 1 the approach was tested for the first time when thirty cars were pushed up the structure. The new approach allowed three times the number of cars of the old approach and this along with the enlarged capacity of the dock would allow greater efficiency.

A locomotive pulling as many as thirty ore cars started the approach to the dock just west of Fifth Street in Marquette. The

tracks cross Fifth Street at a grade which consists of dirt fill, supported by concrete crib walls ending at a concrete abutment on the west side of Fourth Street. On the east side of Fourth Street a concrete pier supports the steel span over the street and the first span of the steel approach. From this point to the west side of Lake Street, the train passed over steel tower and bent type of construction. Concrete piers and footings support the towers and bents.

The ore trains approached Fourth Street on a 1.22% grade which continues to a point approximately 145 feet east of Fourth Street. From this point to the west side of Front Street the grade is 0.5855%, where it changes to a 0.6603% grade and continues as such to the dock.

Alignment on the approach has two six degree curves, the first 368 feet long to the right and the second 380 feet long to the left and one 7 degree curve 252 feet to the right.

Over the years the approach was maintained as needed. During the maintenance season of 1958, \$21,320 was spent on improvements to the approach and the following year another \$29,124 was spent. During the winters of 1965-1966 and 1966-1967 construction work was carried out on the approach posts, bridge piling and crib work. A complete inspection of the entire structure was conducted in July 1972 and the approach was found to be in fairly good condition. At the time a cost repair estimate was made by the Soo Line. The repairs to the dock and its approaches would be \$38,000.

The question of vandalism, trespass, liability and fire has been raised and dealt with since the construction of the structure. The retaining wall at the base of the approach between Front and Third Streets provided a location for local youth to congregate, drink wine and smoke marijuana in the late 1970s. In November 1977 one individual was injured from a fall. This was followed by complaints by adjacent property owners of harassment and the destruction of property. It was recommended that a fence be placed on the site and protruding bolts be removed from the wall. It seems that the problem was solved without resorting to these measures.

In 1981 there was some renewed interest in rehabilitating the dock and its approach. A complete inspection of the dock showed that it would have to be rehabilitated if it were to be reopened. The report showed that most of the ties would have to be replaced. The approach needed many replacements and it was recommended that the rails and switches be replaced with heavier gauge rails to more efficiently handle heavier loads. The Soo Line estimated proposed expenses for the dock and approach would

be \$625,000.

The status of the dock remained undecided. On 8 March 1985 Krech & Ojard Consulting Engineers based in Duluth, Minnesota released a report, "Removal Estimate of the Soo Line Ore Dock in Marquette MI" which had been ordered by the Michigan Department of Transportation. The demolition was to include the removal of the approach trestle to the dock. At the time, the cost estimate for the removal of the steel portion of the dock approach together with the timber decking and concrete piers was \$70,635.

Today the approach winds its way through the city of Marquette. Locked gates and a fence prevent unauthorized entrance near the Fourth Street overpass. However individuals have trespassed and have vandalized the structure. The city of Marquette had had the following sign erected over Front Street:

MARQUETTE  
Home of  
NORTHERN MICHIGAN UNIVERSITY

The black paint on the structure is peeling and its condition of the structure is gradually deteriorating.

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Marquette Ore Dock No. 6:  
Approach  
HAER No. MI-45-A (Page 7)

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